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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,091	10/20/2003	Yuan-Chi Chang	YOR920030385US1 (8728-644)	3809
46069 7590 06/18/2007 F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER HARPER, LEON JONATHAN	
			ART UNIT 2166	PAPER NUMBER
			MAIL DATE 06/18/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/689,091	<b>Applicant(s)</b> CHANG, YUAN-CHI	
	<b>Examiner</b> Leon J. Harper	<b>Art Unit</b> 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-15 and 17-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-15 and 17-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/27/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/26/2007 has been entered. Claims 1,11,15,26 have been amended. Claims 2, 16 have been cancelled and claim 37 has been added. Accordingly, claims 1,2-15,17-37 are pending in this office action.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5797007 (hereinafter Erick) in view of US 20030140308 (hereinafter Murthy).

As for claim 1 Erick discloses: automatically generating a persistent storage structure in a persistent storage medium based on the determined logical structures and properties of the declared entities (See column 4 lines 34-39); and automatically generating an interface for the persistent storage structure, wherein the interface comprises entity classes that are automatically generated to enable access to entity instances in the persistent storage structure (See column 4 lines 63-66).

While Erick does not differ substantially from the claimed invention, the disclosure of receiving as input an entity definition of a persistent storage structure, wherein the entity definition comprises a declaration of an object, one or more properties of the object, and a data type for each property, parsing the entity definition to determine logical structures and properties for declared entities is not necessarily explicitly stated. Murthy however does disclose receiving as input an entity definition of a persistent storage structure (See paragraph 0032), wherein the entity definition comprises a declaration of an object, one or more properties of the object, and a data type for each property (See paragraph 0052).

parsing the entity definition to determine logical structures and properties for declared entities (See paragraph 0117). It would have been obvious to an artisan of

ordinary skill in the pertinent art to have incorporated the teachings of Murthy into the system of Erick. The modification would have been obvious because languages like XML are becoming more and more frequent, and databases are not made to fit every possible object that can be derived from such languages (See Murthy paragraph 0016). An automatic method of persistent storage will allow the full structure of languages such as XML to be fully used and will allow for optimal performance (See Murthy paragraph 0018).

As for claim 3, the rejection of claim 1 is incorporated, and further Murthy discloses: wherein the persistent storage structure comprises a database table (See paragraph 0033).

As for claim 4, the rejection of claim 1 is incorporated, and further Murthy discloses: wherein the persistent storage structure comprises a file directory (See paragraph 0075).

As for claim 5, the rejection of claim 1 is incorporated, and further Erick discloses: wherein the persistent storage medium comprises a hard disk, a readable /writable CD or a floppy disk (See column 4 lines 35-37).

As for claim 6, the rejection of claim 1 is incorporated, and further Murthy discloses: wherein the method is implemented in a database system (See paragraph 0032).

As for claim 7, the rejection of claim 6 is incorporated, and further Murthy discloses: wherein the database system is a relational database (See paragraph 0034).

As for claim 8, the rejection of claim 1 is incorporated, and further Erick discloses: wherein the step of automatically generating an interface for accessing the persistent storage medium comprises automatically creating methods for one of storing, retrieving, searching, and removing entity instance data in the persistent storage medium (See column 4 lines 55-65).

As for claim 9, the rejection of claim 1 is incorporated, and further Murthy discloses: automatically generating an index to persistent stored data (See paragraph 0141).

As for claim 10, the rejection of claim 1 is incorporated, and further Murthy discloses: wherein the step of automatically generating an index to persistent stored data comprises generating an index to persistent stored data that is frequently accessed as determined by a predefined indicator (See paragraph 0141).

As for claim 11, the rejection of claim 1 is incorporated, and further Erick discloses: automatically adapting the persistent storage structure or the access interface for a new entity definition (See column 4 lines 55-58).

As for claim 12, the rejection of claim 1 is incorporated, and further Erick discloses: automatically optimizing the persistent storage system to improve search efficiency or storage scalability (See column 4 lines 60-65 note: methods are optimized).

As for claim 13, the rejection of claim 1 is incorporated, and further Murthy discloses: automatically creating a cache memory for storing an entity instance that is accessed from the persistent storage medium (See paragraph 0164).

As for claim 14, the rejection of claim 1 is incorporated, and further Erick discloses automatically populating the persistent storage structure with entity instance data (See column 4 lines 34-38), while Murthy discloses: : receiving an entity instance declaration (See paragraph 0032).

Claims 15-25 are program storage device claims corresponding to method claims 1-4, 8-14 respectively, and are thus rejected for the same reasons as set forth in the rejection of claims 1-4, 8-14.

Claim 26 is a system claim corresponding to the method of claim 1 and is thus rejected for the same reasons as set forth in the rejection of claim 1.

As for claim 27, the rejection of claim 26 is incorporated, and further Murthy discloses: a database system comprising the persistent storage structure of claim 26 (See paragraph 0032).

As for claim 28, the rejection of claim 26 is incorporated, and further Murthy discloses: an enterprise application comprising the persistent storage structure of claims 26 (See paragraph 0203 note: the application may be enterprise).

As for claim 29, the rejection of claim 26 is incorporated, and further Murthy discloses: wherein the persistent storage structure comprises a database table (See paragraph 0033).

As for claim 30, the rejection of claim 26 is incorporated, and further Murthy discloses: wherein the persistent storage structure comprises a file directory (See paragraph 0075).

As for claim 31 the rejection of claim 26 is incorporated, and further Erick discloses: wherein the access methods comprise methods for one of storing, retrieving, searching, and removing entity instance data in the persistent storage medium (See column 4 lines 55-65).



As for claim 32, the rejection of claim 26 is incorporated, and further Murthy discloses: wherein the autonomous persistent storage system is an electronic catalog system (See paragraph 0225).

As for claim 33, the rejection of claim 26 is incorporated, and further Murthy discloses: wherein the autonomous persistent storage system further comprises an index creation module for automatically generating an index to persistent stored data (See paragraph 0141).

As for claim 34, the rejection of claim 26 is incorporated, and further Murthy discloses: wherein the autonomous persistent storage system further comprises a cache memory module for automatically storing an entity instance that is accessed from the persistent storage medium (See paragraph 0164).

As for claim 35, the rejection of claim 26 is incorporated, and further Erick discloses: wherein the autonomous persistent storage system further comprises means for automatically populating a persistent storage structure with entity instance data that is input to the system (See column 4 lines 55-58).

As for claim 36, the rejection of claim 26 is incorporated, and further Murthy discloses: An e-server that implements the system of claim 26 for providing a data

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management service based on a fee agreement or service level agreement (See paragraph 0225 the two way communication is explicitly for service).

Claim 37 is a method claim corresponding to the method of claim 1 and is thus rejected for the same reasons as set forth in the rejection of claim 1.

### ***Response to Arguments***

Applicant's arguments filed 3/26/2007 have been fully considered but they are not persuasive.

#### **Applicant argues:**

The office action states that Erickson discloses a process of automatically generating a persistent storage structure using an entity definition and automatically generating an interface to access the persistent storage medium. However, Erickson discloses in Col. 4, lines 34-39 an EncoderDecoder function that is used to reformat object instance data of an object from an internal storage format to a format that complies with a predefined persistent storage format.

#### **Examiner responds:**

Examiner is not persuaded. Claim 1 recites in part "automatically generating a persistent storage structure in a persistent storage medium based on the determined logical structures and properties of the declared entities." Therefore as examiner reads this claim the storage structure and the storage medium are defined by the claim as too separate objects. The medium something like a disk upon which the structure can be stored. (taught in column 4 lines 36-28) while the structure is the object whose definitions are the properties and data types that are defined as input in the entity definition. Murphy has been cited as teaching or disclosing the limitation of receiving as

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input an entity definition of a persistent storage structure, wherein the entity definition comprises a declaration of an object, one or more properties of the object, and a data type for each property. Once the entity definition has been read according to Murphy Erickson clearly discloses taking an object, checking the attributes of the object, storing the object in a persistent storage structure and generating get and set to enable access to the persistent storage structure that is stored in the persistent storage medium (See col 5).


### Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon J. Harper whose telephone number is 571-272-0759. The examiner can normally be reached on 7:30AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH  
Leon J. Harper  
June 8, 2007

  
Mohammad Ali,  
Primary Examiner